

## INTER-BASE

AN INTER-DUCTION TO THIS ROM PROGRAM

### TIPS AND SHORTCUTS

USEFUL ROUTINES TO MAKE YOUR LIFE EASIER

### WHAT DOES IT DO?

WHAT DOES YOUR BBC MICRO DO FOR YOU?

### SURVEY

DO SCHOOLS STILL USE BBC MICROS?



READ THIS

MAGAZINE

FOR ME

LOVE, WILL

YOU LOVE,

WILL YOU

DO THAT

FOR ME

LOVE!

PLUS:

- YOUR LETTERS SHARED AND VIEWS AIRED
- BBC SUPPLIERS AND SUPPORT GROUPS
- PUBLIC DOMAIN AND SHAREWARE SELECTION
- CLASSIFIED ADS AND SERVICES
- HINTS AND TIPS
- LITTLE RITZ - USEFUL ROUTINES

A DIFFERENT WAY OF LOOKING AT YOUR BBC MICRO

# page 1 editorial



*In the computer world, it's not what you know or who you know, it's whether you're ever gonna know: to become part of the culture, the 'club'. There is so much to know, you could go on 'knowing' for ever. Then when you feel you know enough to get involved, you're probably too late.*

## "TOO MUCH KNOWLEDGE IS NOT SUCH A GOOD THING".

What rubbish! Not enough knowledge could get you run over. But it's not the amount of knowledge you can know, it's whether there's enough time in the universe to learn everything you want to. I know when I got my first computer" (Sinclair's ZX Spectrum, circa 1982) I was going to learn BASIC, Z80 machine code and anything else that was left after that I was going to write professional software, flicker-free graphics (I always believed that to be a contradiction in terms) and make loads of money and become famous. Well I did manage to master BASIC reasonably well, and I could spell 'Accumulator' but that was as far as it went. I always considered myself to be something of a computer nut (a phrase picked up from my mum and dad mostly), yet with all the time I dedicated to my hobby, I still had hardly scratched the surface.

That was then...

After three months and three issues of ByteBack, it never ceases to amaze me the diversity of knowledge, experience and equipment in existence in your homes! A glance at the *letters* pages of this issue will give you an idea of the scope of information required by present BBC users, from very basic instruction - the kind found in the first dozen pages of 'The User Guide' - right up to detailed chip and circuit board pinouts - the kind not found in my user guide - with all stages inbetween.

### MY BACKGROUND

I'm no expert when it comes to the BEEB I disposed of my first machine in the mid 80's (at the age of 17, the desire for money - and ultimately popularity - outweighed the need to run blindly up and down corridors, climb ladders, bash strange objects on the head with a hammer and rescue some fictitious girl that didn't really exist anyway). This was long before I had given my 'good and faithful' a chance to do anything other than whisk me away to some fantasy land of my own devising; everything that happened to the BBC computer industry after that time, the products, the software, the abilities of programmers, is an 'all new' experience to me. Often it's well beyond me. Had you mentioned ADFS or SHADOW RAM to me two months ago I would have thought you were talking about a different computer system. I have to admit to bolding some of your letters up and turning them around to be sure I'm holding them up the right way. Believe me I am trying to make up for all that lost time; getting your letters really does help. It has been exciting for me to discover so much that's 'new' in such a short time, and I believe my knowledge of the BBC has moved on in leaps and bounds. (Cont.)

\* Not strictly accurate: my first was a ZX81 (with 1K Chess) in 1981 with a 16K RAMPACK

# CONTENTS

8

## Features

What does it do? (Frank Jones) .....	6
INTER-BASE tutorial part 1 .....	8
Classic games .....	9
BBC's in Schools survey .....	10
Tips & Shortcuts .....	11

## Regulars

Editorial .....	1
Vintage News .....	3
Letters .....	4
Public Domain & Shareware .....	7
Classifieds .....	13
The Noticeboard/Suppliers .....	14
Subscriptions .....	14
Little Bitz .....	Back

## Programs

Data validation function (part 2) .....	Back
---	------

## CONTINUED FROM PAGE 1

I still have a long way to go down BEEB Lane, and along the way I'll meet many people who've stopped for a breather or have even taken lodgings indefinitely because they've met a hill that looks a little too steep to climb. Perhaps I'll even point a few late-starters to that goal of ultimate computer knowledge. Well, maybe I'll never get there, but hey, what fun trying!

## LET'S GET TECHNICAL

I have received precious little in the way of BBC related problems or any technical questions that you're searching for answers to. Does this mean that you've all managed to get your system and software 100% working? Well, I guess 10 years is enough time to iron out the wrinkles. However if you have got a query perhaps other readers can provide the solution. Alternatively, if you have a solution to a situation that you think somebody else might find useful write in, don't keep it to yourself.

## CIRCULATION

The present subscription base is 19 members. Material for the magazine is coming in at a faster rate than can be included in each issue, securing BB's future for a while at least - Thanks!

## BYTEBACK GAINS

### INTERNATIONAL APPEAL

It's official! As of this issue, ByteBack has contacts in foreign lands! Actually the full story is like this. I receive a letter from an Acorn User reader in Denmark, requesting further information regarding this magazine. So, with all haste, I package up issue one and ship it out, AIRMAIL...! For those of you unskilled, now would be a good time to take up that second language you always thought would be useful. Perhaps we'll see future issues of ByteBack zipping through 'the Channel Tunnel'. Watch this space for further details about ByteBack's intrepid march into and beyond the 'Iron Curtain' ...

## PRINTERS

In a (near) future issue of BB, I will be including a feature on (cheap) printers. If you have a printer attached to your Beeb, would you send in a short review of it? But wait until the next issue before you do because there will be a short program that calculates the speed of your printer, to include with your review.

Paul

# This is Vintage BBC... news



*The time: January 1987,  
the place: Acorn User*

## **SUPERIOR PUTS GAMES ONTO 'CREDIT CARDS'**

The first software on revolutionary 'credit cards' has been released. Cumana has put Superior Software games and Advanced Computer Products utilities onto Astron Cards. These remarkable devices are the size and shape of credit cards but have tiny RAM or EPROM chips sealed inside them, and link to other equipment by a row of connectors. The cards were developed in Japan as security and banking identity cards but are now found on computer games consoles. Cards with capacities of 0.5Mb are available. CUMANA has started to manufacture the cards in the UK and is producing interfaces for the BBC micro. Many games houses are interested, but Cumana sees the future of the cards with serious BBC micro users and programmers. Cumana's first interface is a sideways ROM module, which fits a ROM socket and enables suitably programmed Astron cards to be used as sideways ROMs. It costs £24.95 and comes with Superior Software's *Star Striker* game on a card. A sideways cartridge for the Master is also available for £44.95 with a choice of ROM software from Advanced Computer Products. Its Disc Toolkit, 1770 DFS and Disc Investigator are available in this format. All cost the same as the ROM versions. SOFTWARE to use the card system (like a disc drive) to be launched with a two card system to take Astron cards with up to 512k RAM. For dedicated programmers an Astron card adaptor to allow existing EPROM programmers to blow EPROM Astron cards is available for £12.95. Software companies are eager to produce Astron card software. Superior has arranged for Cumana to pro-

duce many of its games on Astron cards, for 'the same price as disc games', as well as the excellent speech synthesiser, *Speech!* Future plans include megagames using the cards' enormous capacities and quick access.

THE cards' acceptance depends on Cumana selling interfaces. Games houses are nervous of committing themselves too quickly. 'Until sufficient people use the cards we'll be stuck to cassettes and discs. However, people are buying the interfaces. The ball is in Cumana's court', said Superior's Steve Botterill.

DESPITE a slow start, Cumana said, 'speed and convenience make it a very exciting prospect'.

## **BOTH SIZES IN DUAL DRIVE**

For those with incompatibility problems between the Compact and model B or M123, Akhter's Combo is a usual-sized dual unit case with both 3.5in and switchable 40/80 track 5.25in drives. It costs £259.99 with power supply or £249.99 without.



## **CONCRETE RESULTS**

In the *Cement Management* simulation, players are expected to keep a cement company going over five years, starting with £2 million. Production, distribution, cost analysis and investment are covered by the game. Blue Circle has sponsored the game, which is for students aged 15 upwards. There is also a package on *Crisis Management*, based around a disposable shirt company.

# the postbag

# your letters



*There once was a computer user who sat on a rock. Then he started a BBC Micro users magazine and got loads of letters from many keen users. So he decided to publish some of them...*

 I read with interest that after digging up a BBC macro you are thinking of restarting a fanzine. I've been a proud user (only to begin with, I'm embarrassed now) of Beeb for eight years and would enjoy contributing to/reading something of this form.

A. Bennett, Portsmouth

 Well, the magazine is much better than I expected. When it arrived in the post my first admiration was the quality of the cover and the whole magazine for that fact. I have read it a few times trying to thank what else to write. The 'news' page is just what I was hoping you would include. The 'letters' pages were also interesting to read, and I was quite surprised to see mine included (fame at last). Your 'Me & my Micro' section was very interesting, I was wondering if other subscribers could include a passage for themselves in this section. I would personally like to. I am glad that you included BBC's in education and software and hardware reviews, as this is just what I am interested in. The classified ads section is great and I'm pleased you don't charge for submissions. I'm amazed how much of what I would have liked to see included, such as business's who sell BBC products, to name just one. One thing I would like to include however is the date the next issue comes out, so subscribers

know the date at which the magazine is to be released. An amazing issue crammed full of excellent information about the BBC, I just can't wait to see the next issue.

E. Clayson, Salisbury, Wiltshire

 Many thanks for sending a copy of ByteBack so promptly. I am very happy to become a member of your club. I think it is a good thing to be a member of a group such as you are contemplating and hope it will be a great success. During the winter months I attend a small group, who have access to BBC Masters, it is only one day in the week, the person who leads our group is very helpful. When we resume next month, I will mention to him about ByteBack, you never know, you may get some other people who are interested. The computer group is a small section of a much larger group named "Opportunities in Retirement" (OIR). Once again, thanks for the magazine.

W. Duff, Ayrshire

 Thank you for sending the copy of the first issue of ByteBack, which will I trust be the first of many to come. I acquired my BBC B issue 7 machine just over two years ago after I had officially retired. During the past two years I have installed an Aries B-32 Shadow Ram board, as most of the use to which I put the 'B' is on Spreadsheets and Word Processing. I have just recently installed a B-12 Rom board to compliment the B-32 and put the whole into a Viglen console. One of the largest of my Inter-Sheet applications is an analysis of Income & Expenditure, Bank Reconciliations (2 Bank A/C), Journal Entries and Final Accounts with three Appendices, all linked by cell references, leaving me with "1% free memory", which I thought was fairly good for a machine that is supposed to be 'Dead'. Whereas I formerly used Contex Computing

# more of your letters

get to



Spreadsheets Mk.V, the Inter-Sheet Rom with the Shadow Ram fitted gives considerably more scope. My only criticism of Inter-Sheet is that there is no Zero-ing command to remove all the entries other than text and formulae, but having said that I now use skeletal SS for anything which I am going to repeat on another occasion. The Word Processing is done mainly on Inter-Word and the WYSIWYG layout suits me better than having to preview text before printing.

As you point out on your first issue, there is not a lot of support for the 8-bit machines in the magazines at present being published and paying £2.95 for a mag. & disc, which has to be converted to 5" at 50p extra and which comes on 40 track with indifferent programs is not my idea of a good buy. Even the addrs are directed to the 16 and 32 bit machines, so anything to inject more life into the 8-bit scene has my encouragement.

J.Hay, Galashiels

It has been my intention for some time now to give up subscribing to the BAU, which is in effect a magazine that purports to fulfil the needs of all Acorn machine users, yet fails to satisfy my curiosity about the BBC micro for which there is always something new to learn. The BAU now offers virtually nothing for the BBC micro user. So, as I was flipping through this August issue, I came across your letter and hasten to assure you that there still are some interested parties somewhere out there! As of this year I became a fully paid-up retiree. Although during the previous fourteen years I had worked for a major computer supplier I rarely found the time to polish up my skills on a mere home computer. My BBC Micro has been expanded in many ways, to increase its flexibility, and having overcome the problems usually associated with the dearth of readable instructions and information so

often encountered, I find I have what to me is a quite useful micro which satisfies many of my needs. So Paul, I am a potentially willing contributor to what may turn out to be a lively, interactive group of BBC Micro devotees. Please let me know what ideas you may have in mind to bring this concept to fruition.

F.Iveson, High Wycombe

I find ByteBack very interesting as I am a complete novice with the computer and am very keen to learn more about it. I used to be a bilingual secretary and am saving up for a printer as I would like to try my hand at Word Processing - so far I haven't done any! I would very much like to see reviews about printers (reasonable), which are compatible with the BBC B. Also, it would be nice to see adverts for printers, educational/games discs on their own without being part of a complete computer package. I am also looking forward to reading about your "Classic Reviews".

Mrs J.Morris, Poole, Dorset

What a great idea to have a mag for the people that appreciate a machine, not just because it's fashionable, because it actually works. I am writing this on my BBC B+, using Inter-Word and a posy old Epson LX80, so you can see that I really work to a basic level. I regularly swap info and ideas with my brother-in-law who, with the collusion of the government of the day, is presently resting from toil and has spare time to play with his BBC micro. I'll be very interested in exchanging ideas and hints or programs via such a publication as yours. I hope you get the response necessary to start up - good luck!

P.Wren, Hucknall, Nottingham

*That's it for Letters this month. If you have something to add, please send your letter to my address given on the Noticeboard, page 14... ■■■*

# *that's all very well, n... but what does it do?*

*Well, what does your BBC do for you? Frank Jones has found a use for it...*

Our worthy editor wonders what use we put our computer to. Well mine does get involved with Word Processing and when I bought my latest BBC, it's previous owner had seemed to acquire ROMs like a chemist acquires money! 32 in all! Most seem to do with the Disc Operating system, Sideways Ram and Word processing. Of the latter, I have:-

#### **WordWise Plus and WordWise Plusless, View, Inter-Word**

#### **Edward**

the last being a product of some Welsh University, circa 1982. Mainly I use View 2.1 and WordWise when writing to Solmet.

My set up is:-

**BBC Issue 7, Watford 14 ROM board, Opus/Slogger 40/80 Disc Drive, Microvitec 452, Acorn Data Recorder, Epson LX 80 Printer.**

Whilst I cannot boast about creating any literary gems, around 1987/90, I do feel I did contribute to my predominant hobby which is playing Duplicate Bridge, 3 or 4 nights per week! Duplicate Bridge has one thing in common with Computer types, it tends to attract people with a mathematical inclination and there are quite a few computer types playing Bridge!

A session of Duplicate Bridge produces at least 22 scoresheets containing the scores of the 20 to 60 pairs that took part, so permute that! Despite the fact that the scoresheet contains the world wide recognised Bridge scores, for Duplicate, these are converted to what is

called Match Points, this done manually and the entering of points on a reconciliation sheet can take over an hour. It is a task that lends itself to a computer. In the years I have mentioned, anyone in the world of Bridge who could program was writing a scoring program and the task that took over an hour was reduced to a quarter of that time. And, I am pleased to say that I wrote my own scoring programs and for ordinary Club nights took the scoresheets home and the results were available for the next meeting. For really big Club nights, the BBC, monitor, Disc Drive and Printer were loaded in the car and taken to the Club. Where, at the end of the event, feeling like the Lord of Creation, the program was set running, the data fed in and I could lean back and see the printer produce the results sheet, showing winners etc, much to the awe of the onlookers. Regrettably, those days have gone. Each Club now seems to have its own P.C., printer etc and the Final Results are produced within a quarter of an hour ending.

On the nights I am Tournament Director (The Boss), resignedly the Club knows I am taking the sheets home and next day my BBC churns out the results and I feel quite proud that an 8 bit machine can hold its own with an IBM, a Victor, a Sirius and two Amstrads owned by the various Clubs I attend. I have used ViewSheet for Club records where I feed the in biweekly results, the outcome showing Pair's average percent over a season. I only do that for one Club now, the biggest, over 400 names, where the Spreadsheet over the Winter period features a pair's average percent and positions in various competitions and is over 500k. For this I use my P.C. I did use a database early on but the Secretaries of the various Clubs seemed happier keeping member's names and details in their little black books so that was a chore I was glad to get rid of.  
*(Continued on page 7)*

# public domain & us v. you. i. . 2 shareware

*I didn't have any PD software to review this month, so here's a profile of a PD source instead...*

Chris Richardson, the man presently behind "8-Bit Software", runs his organisation from a spare room at his home in Hull, having taken over from its previous owner, Darrel Shimmin, around June of this year. A Leading Ambulance Paramedic by trade, and working at Preston Ambulance station during the day, he dons the proverbial BBC-controllers cap by night and gets down to answering a stack of people's letters and sending out discs in copious quantities. Somewhere in between these tasks, he has time to put together a disc-based magazine for all of 8BS' members, a product of his own design. "I am quite proud of the magazine. I developed the software myself to produce a teletext magazine with a scroll up and down action. The teletext editing software that I use I also in the PD pool."

Up until a couple of months ago, the Public Domain software that 8BS provides was only available to its members. But with the change of

management came a change of attitude. "I have changed the way the PD software pool operates in an attempt to keep people using their BBCs. Previously the PD software was only available to members. I have made it available to anyone." Chris does add, however, that, "Charges are, I think, the cheapest around, especially if you are a member."

The choice of software available is huge, from a selection of over 150 discs, every one packed to capacity with a variety of what's on offer. A catalogue is available to anyone willing to send an SAE. (A5 is big enough). Include a 3½in or 5¼in disc for the 8BS catalogue/samples/info disc and a note to that effect. **ED**

## Take note...

- PD library consists of 150+ discs. Software of every incarnation - something for everyone.
- Cost of PD discs are £1 each - 50p if you supply a formatted disc and return postage
- DFS/ADFS Disc based magazine made up of software and articles submitted by members/BBC users. Membership is free, but send 50p to cover cost of each issue and supply SAE and formatted 3½in or 5¼in disc.

**C.J Richardson, 8BS, 17 Lambert Park Road, Sheriffs Highway, Hedon, Hull HU12 8HF - Tell him I sent you!**

## BUT WHAT DOES IT DO!

*(Continued from page 6)*

When I think of all the Bridge Clubs I have played at whilst on holiday, YES, my Wife and I are both very keen players, I think I have seen more 'Master' computers than BBC, probably because 1986 saw the end of the Beeb and as Clubs were beginning to purchase computers, the Master was coming in. This all might sound very boring to non Bridge playing readers but to the Bridge world, short of the perfect bidding system

which has not been invented yet, scoring by computers was a gift from heaven and you can rest assured that the Beeb shone in the glory. Now, I am beginning to think of how to link up the Beeb to my son's model railway. The railway was last run 20 years ago. It was second hand when it was bought 25 years ago, it being a Christmas present when my son was 7. Should be quite interesting! Three old age pensioners together!

*It's all very well reading about someone else's BBC - how about yours? What does it do? **ED***

# INTER-BASE

*What is INTER-BASE?  
This issue in part one of an  
introduction, Martin  
Pickering explains in detail  
what it's all about*

With WordWise Plus and Inter-Word selling literally tens of thousands of copies, it was the users that pushed continually for a comparable database program. Within Computer Concepts the need was also clearly seen for a good database which would meet a wide variety of needs and integrate with existing products. Database programs already on the market were written mainly in BASIC and, while they performed simple card index activities adequately, they did little else. A program from Computer Concepts would have to do much more or there would be little point in creating it. The success and flexibility of WordWise Plus indicated the usefulness of an integral programming language. Thus, together with lessons learned from traditional database programs such as DBase, pointed the way forward for Inter-Base.

As part of the ROM-LINK series of packages for the BBC Micro, Inter-Base could provide the programmability to combine the actions of the Inter-Word word processor, Inter-Sheet spreadsheet and Inter-Chart graph plotting program. It was envisaged that activities such as combined word processing, invoicing and stock control would easily be achieved. In retrospect it is easy to see that the sums were just too high. The BBC Macro, powerful as it was for the early 1980s, had too many limitations for the ambitions held for Inter-Base and the rest of the ROM-LINK family approaching the 1990s. With a limit of about 25k of mem-

ory, and the majority of users running with just floppy disc drives, virtually every useful application ran into difficulty.

Inter-Base itself started out by being written as a 16k program - the maximum size which could fit into a programmable chip in a BBC Macro. Like Inter-Word, it soon grew too large. Inter-Word was introduced on a specially designed chip carrier to allow a 32k program to fit on a standard machine. This chip carrier used a PLA (Programmable Logic Array device) to switch between banks of 16k in the Eeprom. Inter-Base grew and grew until eventually an even more expensive 64k version had to be produced. As such, Inter-Base is, and probably always will be, the largest machine code program to be produced for the BBC Micro. It is hardly surprising then that it was released some two years later than the original planned date. Not all of the 64k Eeprom chip is occupied with the Inter-Base programming language. When you start Inter-Base, a pre-programmed card index system is entered and its menu appears on the screen. This allows users at least some operationality without the need for programming. This card index was written using the Inter-Base programming language (IBPL for short) but cleverly stored inside the same chip. This way you don't have to load the program from disc each time you switch on and it leaves more of the computer's (limited) main memory free for data.

Inter-Base meets virtually all of the criteria which the programming team intended for it. It offers integration with the Inter-Word, -Sheet and -Chart; it is an extremely comprehensive programming language with very powerful database commands and very few limitations on record size or maximum number of records.  
*(Continued on page 9)*

# A quick look at a few classic games

*I have picked a few of my favourite games to shed some light onto this month*

Rather than concentrating a lot of effort onto one or two games I have decided to pick a number of my favourites and give a brief overview. If you've got a favourite game, why not send in a review?

**Chuckie Egg (AmF)** - An absolute Classic in my books. Basically a 'levels' type of game where you run up and down ladders, collecting eggs and avoiding ostriches. 20+ levels, that just get harder and harder. It's easy to find yourself playing this for more than an hour without even realising it (if you're good that is!).

**Arcadians (Acornsoft)** - based on the arcade game, Galaxians, which was basically the first evolution of the original, Space Invaders, you shoot at a whole stack of descending aliens. Not only do they line up very helpfully in neat rows, but a few of them break off from the pack and come swooping across your path as you try very hard to avoid the flow of bombs they drop. A very close copy of the arcade original it was based on and very playable.

## INTER-BASE TUTORIAL (PART 1)

*(Continued from page 10)*

However, it has one major failing: users without programming ability can achieve little more with Inter-Base than was possible with the original "cheap and cheerful" programs available several years earlier at half the price. Specifically, they have at their fingertips only the pre-programmed card index system which, because of space constraints within the chip, uses only some of the facilities supported by IBPL.

**The way of the Exploding Fist (Melbourne House)** - An early, kick-em-up, karate game. Armed with nothing more than a pair of loose fitting pyjamas and an arsenal of fancy moves, you have to score a number of successful blows on your opponent to complete a round and progress to the next. You can play against an ever improving computer adversary or knock stuffing out of your best friend (the most enjoyable option and completely painless in reality - it's true!) I recently spent two hours with a couple of friends, engrossed in this game!

**Rubble Trouble (Program Power)** - If you remember the game Pengo and all its followers, you'll know what this game is about. In Pengo, you are a penguin, locked in a deep freeze surrounded by ice blocks, with snowbees after you (blobby things, bent on destruction). You can push the snowblocks around and if a snowbee is behind one, they get squashed. That's basically the gameplay, but there are a few extra tasks to deal with along the way. Rubble Trouble is virtually identical in play, very different in storyline: something to do with a holocaust I think. The game is great nevertheless. Extremely frustrating when you push a rock and it bounces back in your face before you have the chance to get out of the way!

*See Classifieds to get any of these great games!*

Unfortunately, most of the users of Inter-Base see the simple card index program as Inter-Base and look no further. For those willing to put effort into programming, especially those who actually enjoy programming almost for the sake of it, Inter-Base is a marvellous package. Even when you have programmed in IBPL for many months you will still continue to reveal hidden depths of its design.

*Part 2 of this tutorial can be found in issue 4 of ByteBack... **65***

# BBC Micros in schools Survey



*In May this year, I sent a questionnaire to 93 schools to find out how the BBC Micro fared alongside other computers*

It might interest supporters of the humble BBC Micro (and perhaps generate a certain warm glow within) to know that even a period of ten years and a new generation of Acorn computers hasn't knocked the Beeb from its position of being the most ~~common~~ popular computer in use in schools - schools around North London that is.

My reasons for starting ByteBack in April/May of this year are a bit vague and hard to recollect now but it had something to do with providing information about the BBC Micro to schools who had them and perhaps didn't use them for much more than running the odd piece of educational software. Of the 93 questionnaires that I sent out, I received 19 replies, none of which said they weren't interested in what I was proposing. Of the ten positive replies, the following results were drawn:

BBC Micro	98	60%
A3000	42	25.7%
A4000/5000	1	0.6%
Nonbus PC	20+	12.26%
Apple Mac	2+	1.22%

The odd Atari, Commodore, PC clone...

#### Additional Hardware:-

Mouse	4
Turtle	4
Touch Tablet	1
Robot Arm	1

The majority of Beebs are attached to disc drives with a few still using cassette.

#### Age groups that use the computers:-

2-6yrs	5	31.25%
6-12yrs	7	43.75%

12-16yrs	2	12.5%
16yrs+	2	12.5%
<b>Main uses include:-</b>		
Word processing/ database/etc.	9	18%
English	8	16%
Mathematics	7	14%
Logo (Turtle graphics)	6	12%
Sciences	5	10%
Computer Studies	5	10%
Geography	3	6%
BASIC programming	3	6%
Other educational software	3	2%
Assembly programming	1	2%
History	1	2%
Music	1	2%

When asked what they would like to see in a magazine for the BBC, these were the chosen subjects, in order of preference:-

Help section	100%
Tips/ideas	75%
Educational programs	75%
User contacts	60%
Readers letters	50%
Young kids section	50%
Software puzzles	50%
Hardware projects	50%
BASIC (beginners)	50%
Revision/study notes	50%
BASIC (experienced)	50%
Programs for networks	50%
Assembly	50%
Classified Ads	50%

If this survey had been completed on a nationwide scale (I'm not paying the stamps) the figures would quite likely be very different. A copy of ByteBack issue 1 went to each of the ten schools that produced these figures and as of 28th August I have had no feedback. So there you have it: 93 questionnaires, 19 replies, 9 say No, 10 say Yes, no final feedback. If I had relied on the response of schools, without a doubt ByteBack wouldn't have got off the ground. **BB**

*make life with your Beeb easier...*

# tips & shortcuts

**A**n extension of our back-page feature, "Little Bits", this month I have pulled together a number of useful routines, all taken from a Public Domain disc no #147 (available from BBC PD).

## SHORTENED 'IF' STATEMENT

In most cases, the statement IF A<>0 THEN etc. can be shortened to just IF A etc. The "<>0" is implied, provided A can only be zero, or +1 or more, or -1 or less. In the 'before' and 'after' example below, note the space after the variable "A" in the second version. This space would be unnecessary if the variable were "A%" instead.

*before*

```
100 IF A<>0 THEN G=5:GOTO 70
```

*after*

```
100 IF A G=5:GOTO 70
```

(Note the space after the A!)

## LOCK OUT LOWER-CASE

On occasions, it can be useful for lower-case letters to be treated the same as upper-case in GET\$ statements, to avoid having to test for "Y" and "y" for "YES", etc. This Function will always return upper-case letters, even if the <Caps Lock> isn't on. It is written as a Function, which you use:

```
1000 DEFPR#1:=CHR$ (GET AND GDF)
```

## PROGRAM VERIFY

To see if a BASIC program has been successfully SAVED to tape, without losing the current program from memory, type

```
*LOAD "" 8000 <Return>
```

- (note the empty quotes). This works well for
- programs of not more than 16k in length, as it
- is simply trying to 'write' into the BASIC
- ROM, which it cannot do. However, all the
- normal error-checking of the tape data takes
- place, accompanied by the usual "Searching"
- and "Loading" messages. If you have sideways
- RAM, then you should operate the write-pro-

tection switch to avoid garbage being written into the RAM. This also works with disc programs

## UNWANTED SPACES

It is all too easy to leave unwanted spaces in listings, especially by "overshooting" the ends of lines when using the <Copy> key. If you are short of memory, it is worthwhile editing out those spaces. You can spot them by redefining them as white blobs typing.

```
VDU23, 32, 126, 126, 126, 126, 126, 126, 0
```

directly in Mode 7, and then change mode (0-6, 6 is ideal). When you've edited out any unwanted spaces, change back to Mode 7 and SAVE the program. To restore normal spaces, type:

```
*PX20 <Return>.
```

## OPENING DISC FILES

When you open files on a disc for input using the commands OPENIN or OPENUP, the syntax is basically chan=OPENIN("myfile"). The first file to be opened is allocated a channel number like 1, (i.e. the variable 'chan' becomes 1), and if you open another file without closing the first, it is allocated the next channel number, (eg 2), and so on. The numbers don't necessarily start at 1; that's just an example. On most DFSs and ADFS, an interesting thing happens when using OPENIN or OPENUP, where the filename should already exist on disc, but cannot be found, either because you have put the wrong disc in, or maybe because you have mistyped the filename. Instead of causing an error, as you might expect, it simply allocates channel number zero. Thus, you have a very useful way of trapping the mistake before it actually causes an error. Eg. you could add something like:

```
IF chan=0 THEN PRINT "Oops!" :GOTO 200
```

There is no need to use CLOSE#, as the file hasn't been opened in the first place. Only when you attempt to use INPUT#/PRINT#/BGET#/BPUT# on this non-existent file, does the DFS return the error "Channel!", (ERR=222).

### MOVING TEXT (1)

This is a very simple routine which 'assembles' text from the right-hand margin. It is an example of moving graphics at the very simplest level, and illustrates the use of FX19 to create smooth movement. It is written for a 40-column mode, but can be modified for 80 if required. You can omit any spaces, which are shown only for clarity.

```
10 MODE 7:VD023,1,0:0:0:0:  
20 PROCmove("HILLO THERE!!",12,10)  
30 PRINT":":VD013,1,1:0:0:0:END  
40:  
50 DEFPROChmove(t$,:px%,:py%,:vpost)  
60 FOR let%1 TO LEN(text$)  
70 FOR post%37 TO post%+let%-1 STEP-1  
80 PRINT TAB(px%,:py%):MIDS(text$,  
let%,1):":":FX14  
90 NEXT:NEXT:ENDPROC
```

### MOVING TEXT (2)

Here is another short demonstration of moving text. It uses MIDS in a rather cunning way to achieve the movement very simply. If you omit the CLS from line 10, then you get quite a different effect. The routine repeats until you press any key.

```
10 MODE11.VIRUS,1,0:0:0:0:1:COLOUR1:  
COLOUR13:1:CLS  
20 MES$=STRINGS(20," ")+***** THIS  
PROGRAM HAS BEEN BROUGHT TO YOU COURTE  
SY OF BYTESBACK - ISSUE THREE *****  
30 REPEATa$=0:REPEATa$=a$+1:PRINT  
TAB(0,29)MIDS(MES$,a$,20):b$=INKEY(15)  
:UNTIL a$=LEN(MES$) OR NOTb$:UNTILNOT b$  
40 MODE7:END
```

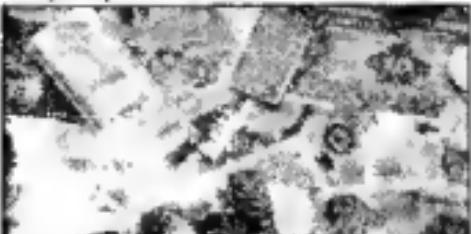
### BUILDING IBOOT FILE

Those of you with disc drives will know that it is sometimes not possible to use "BUILD" without the "disc full" message being issued, even though the disc still has quite a lot of room on it. This is because the DFS, not being telepathic, has no advance knowledge

of how long the file will be, (only you know that), and tends to assume that it will need lots of space on the disc. One way round this problem is to "BUILD" the file on a spare disc, and then "COPY" it across. A more convenient method is to save a dummy "IBOOT" file onto the disc first. The most convenient and safe way of doing this is to use "SAVE IBOOT 0 1". This saves a dummy file of length one byte onto the disc, so as to get the filename "IBOOT" onto the catalogue. You should then have no difficulty in "BUILDing" your IBOOT file afterwards, in the normal way. Note that this method will not corrupt any files in memory, and it can safely be used from BASIC, View, Wordwise etc. This technique works equally well when you wish to use the commands "SPOOL" or "OPEN/OUT/UP", but get "Disc full" messages.

### INTERLACING IN MODES 0-6

Turning the interlacing off can produce a much steadier picture. This is done using the "TV" command, which is only partly explained on page 23 of the User Guide. The full syntax is "TV A,B", where A determines how many lines up or down the display is moved, and B determines whether the i/l is turned on or off. Thus, to leave the picture as it is, but to turn the i/l off, you use "TV0,1. To move the picture down one line as well, you use "TV255,1. To move the display, but keep the i/l on, you would use "TV255,0, which can be shortened to the familiar "TV255. To restore the display to normal, ie i/l on and no shift, you use "TV0,0, which can be shortened to just "TV. Don't forget that the commands will have no effect until you change Mode, and that the interlacing always stays on in Mode 7.



This sort of information is worth its weight in gold, don'tcha know... **BB**

# for sale: classifieds

★ A large variety of ROM software available, including INTER-WORD, Communicator, Inter-Sheet, Wordwise-Plus, from £4.00. Also a variety of books, (machine code and user guides). Contact Martin: 0270 761928 (8pm-9pm)

★ Does anybody know of a hardware/software package that can handle Optical Character Recognition? I need a scanner and software to take text from a page and convert it into ASCII or something similar, to save me from having to type it all in! Contact Mr Heath: 0242 515669

★ A wide selection of 100+ games on cassette and disc, from the early '80s onwards, including: Planetoids, Rocket Raod, Philosophers' Quest, Sphinx Adventure (Acornsoft), Chuckie Egg, Painter (A&P), Blagger, Tarzan (Alligata), Pole Posimon (Atari), Twin Kingdom Valley (Bug-Byte), Yie Ar Kung Fu (Imagine), Ghouls, Chess, Jet Power Jack, Swoop (Program Power), Invaders, Overdrive,

Thrust (Superior Software), etc, from £1.00-£5.00. Also many books for the BBC including M/C programming, Adventure writing, Interfacing projects, Forth, Pascal, Lisp from £4.00. Contact Paul: 0992 652066 for a list.

★ Epson LX80 printer for sale. No instructions, nothing flash, bog standard but works perfectly, ideal as a backup machine or work horse. £50.00. Contact Pat: 0602 638165

★ BBC Tape software for sale, prices for individual items, or good offer for all considered. Also a few 32k Sideways Ram cards left! Contact Chris: 25 Alexandra Close, Illogan, Redruth, Cornwall TR16 4RS

★ Wanted: ADFS ROM, Sideways ROM board, Shadow Ram. Also, contacts to write to regarding the BBC Micro. Contact Chris: 25 Alexandra Close, Illogan, Redruth, Cornwall TR16 4RS

★ Wanted: Tractor Feed attachment for Epson LX80 printer. Also information about a piece of software from KOSMOS, entitled ANSWERBACK: I have database modules but not the main program. Do you have a copy you don't need anymore or know where I can get it? Contact Frank: "Carrwood", 21 Back Lane, Sowerby, Thiesk, North Yorkshire Y07 1NQ

## INTER-BASE

### The INTER-BASE Programming

For anyone who has Computer Concepts' INTER-BASE Database Rom and for anyone who wants to learn it. This 290-page, spiral bound book takes up where the "inadequate" user guide left off. It takes you through creating your own database setup from beginners' level, with example programs along the way and every command is explained in the reference section.

INTER-BASE Guide £14.95  
INTER-BASE ROM £22.50

SYNECTICS - 0270 761928

between 8pm-9pm  
(Other C64 ROM's also available)

## FOR SALE

This space for your Beeb bits.  
Price £100,000 (ono)

ByteBack Classified Ads are free. If you have something to sell, buy, or swap, send the details to me. Please make sure that all the equipment you offer is legitimate, ie not pirated software.

## SUPPLIERS & SUPPORT

- Adventure Soft (UK) Ltd - PO Box 786, Sutton Coldfield, West Midlands, B74 4HG - 021 352 0847
- BBC PD - 18 Carlton Close, Blackrod, Bolton, BL6 5DL
- Commotion - 081 804 1378
- Rickart Educational Software - 0460 57152
- Headfirst PD - 97 Chester Road, Southport, PR9 7JII
- Pres Ltd - PO Box 319, Lightwater, Surrey GU18 5PW - 0276 472046
- Software Bargains & Mercury Games - C/O Northwood House, North Street, Leeds LS7 2AA - 051 4 46 000
- Watford Electronics - 0582 487777



### OTHER BBC USER GROUPS

- SOLINFO - *An annual magazine packed full of useful BBC news* Ray Marshal, 41 Westbrink Drive, Rainworth, Mansfield, Nottinghamshire NG10 1OFB
- ELECTRON USER GROUP - *Magazine for the Electron with some BBC relevance* Will Watts, "EUG", 134 Great Knightsley, Basildon Essex SS15 5HQ
- EIGHTI BBS SOFTWARE - *A good source of BBC information and PD software via a disc based magazine for enthusiasts* Chris Richardson, 8BS, 17 Lambert Park Road, Hedon, Hull HU12 8HE
- BEEBUG - *Excellent magazine on its 12th year of publication* 117 Hatfield Road, St Albans, Hertfordshire AL1 4JS - 0727 840303

## THE NOTICEBOARD

### BYTEBACK ISSUE FOUR -

The fourth issue of this magazine will be sent to all subscribers at the beginning of November.

- PRINTERS PT 1 - a brief overview
- Another glance back with "Vintage News"
- part 2 of the INTER-BASE tutorial
- More of your letters and views

Do you have need for a printed function key list for a program? How about instructions on how to add an external speaker to your BEEB? Mr E Clayson of 2 Twineham Gardens, Alderbury, Salisbury, Wilts. SP5 3TF can help you with these, and many other services to add a little more spice to your BBC setup. Send an SAE for details of the repairs/upgrades/parts/services that are available.

Does anybody have an Acorn 1770 DFS system in use in their BBC? If so, could you help me? I have the 1770 board and the DFS EPROM but no instructions for the fitting of the various links and logic chips. If you have the answer please let me know! (Paul - Ed.)

The address to send any correspondence (always welcome) is: Paul Harvey, ByteBack, 33 King Henry's Mews, Enfield Lock, Middlesex EN3 6JS. Thank you to everyone who "reminded" me that I forgot to include it in the last issue, ehem...

ME

### SUBSCRIPTIONS

My aim is to produce an issue of ByteBack once a month. It may not always happen (due to the rest of my life getting in the way), so we'll just see what happens. The subscription will remain at £1.00 a copy (including postage), and you can subscribe to as many or as few copies as you like, up to 12 copies maximum. No need to return any forms, just pop a cheque in the post (payable to P. Harvey please, *not* Byte Back!), along with a note explaining which copies you require and I'll make sure you get them in tippy-top condition! ☺



## PART 2 OF FRANK IVESON'S VALIDATION PROGRAM

Continuing from last month, the final part of Frank's article

```
10REM          VALFUNC
30REM Function to validate numeric dat
a input, limiting whatever is set
40REM in the function to: - sign, deci
mal point, and up to seven digits
50REM The number of decimal positions
may be set by the ultimate figure,
60REM and the number of numeric digits
by the penultimate figure.
70REM By FRANK IVESON
80:
100MODE?
110REPEAT
120number=PNgetno(3,4,"Please enter
numbers:","-6123456789.",7,2)
130UNTIL a$=CHR$13
140PRINTTAB(9,6)"You entered: ";number
150PRINTTAB(3,15)"~ PRESS SPACEBAR TO
CONTINUE ~";
160REPEAT UNTIL GET$=" ":"num
170:
180DEF FNgetno(x$,y$,prompt$,allowed$,d
t,d$)
190n$=0
200LOCAL in$:int$=" "
210allowed$=allowed$+CHR$13+CHR$127
220REPEAT
230REPEAT
240PRINTTAB(x$,y$)SPC(4)TAB(x$,y$):pro
mpt$+" ";in$;
250*FX15,1
260a$=GETS
270:
280REM respond only to valid characters
290UNTIL INSTR(allowed$,a$)
300REM -sign only as a lead character
320n$=n$+1
330IF a$>CHR$45 OR a$=CHR$13 OR a$=CHR$127 GOTO 360
340IF INSTR(in$,"-.",1)>1 AND n$>1 a$="
350:
360REM only one decimal point
370IF a$="," THEN IF INSTR(in$,".")<>0
a$="
380:
390REM add to string if not del or CR
400IF a$<>CHR$127 AND a$<>CHR$13 in$=
in$+a$
420REM respond to delete
430IF a$=CHR$127 in$=LEFT$(in$,LEN(in$)
-1):IF in$="" in$=" "
440:
450REM limit size of number
460IF INSTR(in$,"-")>0 AND INSTR(in$,
",")=0:IF LEN(in$)>16 THEN in$=LEFT$(in$,
16,16+1)
470IF INSTR(in$,"-")<>0 AND INSTR(in$,
",")=0:IF LEN(in$)>16 THEN in$=LEFT$(in$,
16,16+2)
480:
490REM restrict dec. places to <= dt
500IF INSTR(in$,".")<>0:IF LEN(in$)-
INSTR(in$,".")>dt THEN
in$=LEFT$(in$,LEN(in$)-1)
510IF INSTR(in$,".")<>0
PRINTTAB(9,6)"Decimal places =
":LEN(in$)-INSTR(in$,".")
520:
530UNTIL a$=CHR$13
540=VAL(in$)
```

Anyone presently in the house hunting stage of life may be interested in another offering from Mr Iveson, entitled 'Mortgage Estimating'. This program can be obtained by sending a cheque/P O for £6.50, which includes p&p, to F. Iveson, 16 Roberts Ride, Hazlemere, High Wycombe, Bucks HP15 7AD. Please specify the format you require, tape or disc. **BB**

### LITTLE BITZ

### LITTLE BITZ

### LITTLE BITZ

### LITTLE BITZ

\* If you are editing a BASIC program, you can find out what is the last line number in the program as follows: Hold down SHIFT and CTRL together, press ESCAPE twice in succession, and finally release SHIFT and CTRL.

\* To change the standard VDU 7 'Bell' sound (heard if you press the COPY key when there's nothing to copy), enter these FX calls. Why couldn't this have been the DEFAULT?...

\*FX 211,1 \*FX 213,180
\*FX 212,0 \*FX 214,1